



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/542,432

11/16/2005

Christopher Raymond Jones

05436/HG

2765

1933 7590 07/07/2009  
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC  
220 Fifth Avenue  
16TH Floor  
NEW YORK, NY 10001-7708

EXAMINER

GODENSCHWAGER, PETER F

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

07/07/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,432	<b>Applicant(s)</b> JONES, CHRISTOPHER RAYMOND	
	<b>Examiner</b> PETER F. GODENSCHWAGER	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 20-32,35 and 38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-32,35 and 38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                 | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Applicant's reply filed March 10, 2009 has been fully considered. Claims 24, 25, 35, and 38 are amended, claims 1-19, 33, 34, 36, and 37 are cancelled, and claims 20-32, 35, and 38 are pending.

#### ***Terminal Disclaimer***

The terminal disclaimer filed on March 10, 2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Pat. No. 6,926,836 has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### ***Response to Amendment***

The declaration under 37 CFR 1.132 filed March 10, 2009 is insufficient to overcome the rejection of claims 20-32, 35, and 38 based upon the 35 USC 102 and 35 USC 103 rejections over Fidoe et al. (Intl. Pub. No. WO 02/08127) as set forth in the last Office action because: The declaration fails to set forth facts that are commensurate in scope with the instant claims. Neither the instant specification nor the instant claims limit the definition of a slurry to a liquid containing solid levels of around 70-80 weight percent that is in a homogeneous phase. Such a narrow definition of a slurry is not consistent with the much broader definition of a slurry as set forth by Merriam-Webster ([www.merriam-webster.com/dictionary/slurry](http://www.merriam-webster.com/dictionary/slurry)) of a slurry as "a water mixture of insoluble matter". As Fidoe et al. teaches a water containing metal sulphide scale (an inorganic solid-water mixture), Fidoe et al. is deemed to teach a slurry as broadly defined.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 20-23, 26, 27, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Fidoe et al. (Intl. Pub. No. WO 02/08127).

Regarding Claims 20-23: Fidoe et al. teaches a method of treating water containing metal sulphide scale (an inorganic solid-water mixture/slurry) comprising adding to the mixture a tetrakis (hydroxymethyl) phosphonium sulphate, chloride, or phosphate (Pg. 4, Lns. 5-15 and Pg. 18, Lns. 1-10). Fidoe et al. further teaches adding a chelant/dispersant such as an amino phosphate of formula:  $R^1R^2NCH_2PO_3X_2$  (a phosphnated compound containing at least one tertiary nitrogen atom) (Pg. 4, Lns. 1-5, 25-30).

Regarding Claims 26 and 27: As dispersants (b(i)) and (b(ii)) are recited in the alternative in claim 20, the homopolymer of acrylic acid (dispersant (b(ii))) is not being interpreted as a required component.

Regarding Claim 32: Fidoe et al. further teaches the method where the THP and chelant/dispersant are added with bentonite (clay) (Pg. 8, Lns. 5-10) which would inherently form a clay/THP/dispersant slurry upon initial contact with water.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 24, 25, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fidoe et al. (Intl. Pub. No. WO 02/08127).

Fidoe et al. teaches the method of claim 20 as set forth above.

Regarding Claims 24 and 25: Fidoe et al. further teaches that the amino phosphate  $R^1R^2NCH_2PO_3X_2$  may include compounds where  $R^1$  and  $R^2$  are  $CH_2PO_3X_2$  and X is a hydrogen or an alkali metal such as sodium (Pg. 4, Ln. 25 to Pg. 5, Ln. 17).

Fidoe et al. does not explicitly teach the tetrasodium salt of nitrilo-tris(methylene phosphonate). However, at the time of the invention, a person of ordinary skill in the art would have found it obvious to use the tetrasodium salt of nitrilo-tris(methylene phosphonate) in the method of Fidoe et al. and would have been motivated to do so because Fidoe et al. teaches that the amino phosphate  $R^1R^2NCH_2PO_3X_2$  may include compounds where  $R^1$  and  $R^2$  are  $CH_2PO_3X_2$  and X is a hydrogen or an alkali metal such as sodium, and therefore, one of ordinary skill in the art would have a reasonable expectation of success that such specific compounds would be effective in the method of Fidoe et al. (Pg. 4, Ln. 25 to Pg. 5, Ln. 17).

Regarding Claim 28: Fidoe et al. further teaches the proportion of THP to chelant/dispersant to be from 1:2 to 2:1 (Pg. 5, Lns. 19-22).

Fidoe et al. do not teach the proportion of THP to chelant/dispersant to be about 2:1. However, it is common practice in the art to optimize the relative amounts of result effective variables such as the proportion of THP to chelant/dispersant (see MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the

Art Unit: 1796

proportion of THP to chelant/dispersant taught by Fidoe et al. and would have been motivated to do so in order to achieve the most effective dissolution and dispersion of iron sulphide deposits.

Regarding Claim 29 and 30: Fidoe et al. further teaches the method where the concentration of THP and chelant/dispersant added to the slurry to be from 1ppm up to saturation (Pg. 7, Lns. 15-25).

Fidoe et al. does not teach the method where the concentration is from 10ppm to 1000ppm or about 750ppm. However, it is common practice in the art to optimize the relative amounts of result effective variables such as the concentration of THP and chelant/dispersant (see MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the amount of THP and chelant/dispersant added in the method of Fidoe et al. and would have been motivated to do so because Fidoe et al. teaches that the amount of THP and chelant/dispersant will vary depending on the requirements of the system (Pg. 7, Lns. 15-25).

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fidoe et al. (Intl. Pub. No. WO 02/08127) in view of Case (US Pat. No. 2,877,848).

Fidoe et al. teaches the method of claim 20 as set forth above.

Fidoe et al. does not teach the method where the slurry comprises a calcium carbonate-based slurry. However, Case teaches a method of treating a water system to remove deposits such as calcium carbonate (a slurry) (2:15-30, 4:55-70). Fidoe et al. and Case are analogous art because they are concerned with the same field of endeavor, namely the treatment of deposits in oil well water systems. At the time of the invention, a person of ordinary skill in the art would

Art Unit: 1796

have found it obvious to treat calcium carbonate as taught by Case with the method of Fidoe et al. and would have been motivated to do so because Case teaches that calcium carbonate and iron sulfide are both common precipitated solids in oil wells that can be similarly treated (2:15-30, 7:60-70).

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fidoe et al. (Intl. Pub. No. WO 02/08127).

Fidoe et al. teaches a method of treating water containing metal sulphide scale (an inorganic solid-water mixture/slurry) comprising adding to the mixture a tetrakis (hydroxymethyl) phosphonium sulphate, chloride, or phosphate (Pg. 4, Lns. 5-15 and Pg. 18, Lns. 1-10). Fidoe et al. further teaches adding a chelant/dispersant such as an amino phosphate of formula:  $R^1R^2NCH_2PO_3X_2$  (a phosphnated compound containing at least one tertiary nitrogen atom) (Pg. 4, Lns. 1-5, 25-30).

Fidoe et al. does not explicitly teach the tetrasodium salt of nitrilo-tris(methylene phosphonate). However, at the time of the invention, a person of ordinary skill in the art would have found it obvious to use the tetrasodium salt of nitrilo-tris(methylene phosphonate) in the method of Fidoe et al. and would have been motivated to do so because Fidoe et al. teaches that the amino phosphate  $R^1R^2NCH_2PO_3X_2$  may include compounds where  $R^1$  and  $R^2$  are  $CH_2PO_3X_2$  and X is a hydrogen or an alkali metal such as sodium, and therefore, one of ordinary skill in the art would have a reasonable expectation of success that such specific compounds would be effective in the method of Fidoe et al. (Pg. 4, Ln. 25 to Pg. 5, Ln. 17).

Art Unit: 1796

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fidoe et al. (Intl. Pub. No. WO 02/08127) in view of Lansford et al. (US Pat. No. 3,832,302).

Fidoe et al. teaches a method of treating water containing metal sulphide scale (an inorganic solid-water mixture/slurry) comprising adding to the mixture a tetrakis (hydroxymethyl) phosphonium sulphate, chloride, or phosphate (Pg. 4, Lns. 5-15 and Pg. 18, Lns. 1-10). Fidoe et al. further teaches the addition of a chelant (Pg. 4, Lns. 1-5), and polymeric scale inhibitors (Pg. 14, Lns. 19-30).

Fidoe et al. does not teach the addition of a homopolymer of acrylic acid with a molecular weight of 2,000-5,000. However, Lansford et al. teaches the addition of a homopolymer of acrylic acid with a molecular weight of 1,000-10,000 (2:34-40, 60-65 and 3:20-30), over lapping with sufficient specificity the claimed range of 2,000-5,000 to water in oil wells (6:20-25). Fidoe et al. and Lansford et al. are analogous art because they are concerned with the same field of endeavor, namely the prevention of scale/deposits in water in oil wells. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the acrylic acid polymer of Lansford et al. in the method of Fidoe et al. and would have been motivated to do so because Lansford et al. teaches that it is particularly suitable for preventing scale formation in oil wells (6:20-25).

### ***Response to Arguments***

Applicant's arguments filed March 10, 2009 have been fully considered but they are not persuasive.

Applicant argues that the treatment of water containing metal sulphide scale is not the same as the treatment of an inorganic slurry. This argument has been sufficiently responded to in the above section "Response to Amendment".

In response to Applicant's arguments that neither *Fidoe et al.*, *Lansford et al.*, or *Case* teach or are concerned with maintaining a slurry in a substantially homogeneous phase, the recitation "to maintain the slurry in a substantially homogeneous phase" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). As *Fidoe et al.* teaches the step of adding the claimed phosphonium salt to an inorganic slurry as broadly defined, *Fidoe et al.* anticipates the method claims 20-23, 26, 27, and 32 and the limitations to such a step of method claims 35 and 38 as set forth above and in the Office Action mailed December 12, 2008.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, *Fidoe et al.* and *Case* are analogous art because they are concerned with the same

Art Unit: 1796

field of endeavor, namely the treatment of deposits in oil well water systems and at the time of the invention, a person of ordinary skill in the art would have found it obvious to treat calcium carbonate as taught by Case with the method of Fidoe et al. and would have been motivated to do so because Case teaches that calcium carbonate and iron sulfide are both common precipitated solids in oil wells that can be similarly treated (2:15-30, 7:60-70). Also, Fidoe et al. and Lansford et al. are analogous art because they are concerned with the same field of endeavor, namely the prevention of scale/deposits in water in oil wells. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the acrylic acid polymer of Lansford et al. in the method of Fidoe et al. and would have been motivated to do so because Lansford et al. teaches that it is particularly suitable for preventing scale formation in oil wells (6:20-25).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1796

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

*Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER F. GODENSCHWAGER whose telephone number is (571)270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. F. G./  
Examiner, Art Unit 1796  
July 2, 2009

/Harold Y Pyon/  
Supervisory Patent Examiner, Art Unit  
1796